

## Claims

- [c1] 1. A bioinformatically detectable isolated oligonucleotide which is endogenously processed from a hairpin-shaped precursor, and anneals to a portion of a mRNA transcript of a target gene, wherein binding of said oligonucleotide to said mRNA transcript represses expression of said target gene, and wherein said oligonucleotide has at least 80% sequence identity with a nucleotide sequence selected from the group consisting of SEQ ID NOs: 1-14676.
- [c2] 2. A bioinformatically detectable isolated oligonucleotide which is endogenously processed from a hairpin-shaped precursor, and anneals to a portion of a mRNA transcript of a target gene selected from the group consisting of genes shown in Table 11, Row 1, wherein binding of said oligonucleotide to said mRNA transcript represses expression of said target gene, and wherein said oligonucleotide has at least 80% sequence identity with a nucleotide sequence selected from the group consisting of SEQ ID NOs: 1-14676.
- [c3] 3. A bioinformatically detectable isolated oligonucleotide having a nucleotide sequence selected from the group

consisting of SEQ ID NOs: 1-14676.

- [c4] 4. A bioinformatically detectable first oligonucleotide which is a portion of a mRNA transcript of a target gene, and anneals to a second oligonucleotide that is endogenously processed from a hairpin precursor, wherein binding of said first oligonucleotide to said second oligonucleotide represses expression of said target gene, and wherein nucleotide sequence of said second nucleotide is selected from the group consisting of SEQ ID NOs: 1-14676.
- [c5] 5. A bioinformatically detectable first oligonucleotide which is a portion of a mRNA transcript of a target gene selected from the group consisting of genes shown in Table 11 row 1, and anneals to a second oligonucleotide that is endogenously processed from a hairpin precursor, wherein binding of said first oligonucleotide to said second oligonucleotide represses expression of said target gene, and wherein nucleotide sequence of said second nucleotide is selected from the group consisting of SEQ ID NOs: 1-14676.
- [c6] 6. A bioinformatically detectable oligonucleotide having a nucleotide sequence selected from the group consisting of SEQ ID NOs: 1-14676.

[c7] 7. A bioinformatically detectable isolated oligonucleotide which anneals to a portion of a mRNA transcript of a target gene associated with Addisons disease, which target gene is selected from the group consisting of genes shown in Table 11, row 2, wherein binding of said oligonucleotide to said mRNA transcript represses expression of said target gene, and wherein said oligonucleotide has at least 80% sequence identity with a nucleotide sequence selected from the group consisting of: (a) a sequence selected from the group consisting of SEQ ID NOs: 3 and 14677-15272; and (b) the complement of a sequence selected from the group consisting of SEQ ID NOs: 378232 and 377922-378929.

[c8] 8. A bioinformatically detectable first oligonucleotide which is a portion of a mRNA transcript of a target gene selected from the group consisting of genes shown in Table 11 row 2, and anneals to a second oligonucleotide that is endogenously processed from a hairpin precursor, wherein binding of said first oligonucleotide to said second oligonucleotide represses expression of said target gene, and wherein nucleotide sequence of said second nucleotide is selected from the group consisting of SEQ ID NOs:3 and 14677-15272.

[c9] 9. A bioinformatically detectable isolated oligonucleotide which anneals to a portion of a mRNA transcript of a tar-

get gene associated with Adenovirus, which target gene is selected from the group consisting of genes shown in Table 11, row 3, wherein binding of said oligonucleotide to said mRNA transcript represses expression of said target gene, and wherein said oligonucleotide has at least 80% sequence identity with a nucleotide sequence selected from the group consisting of: (a) a sequence selected from the group consisting of SEQ ID NOs: 4 and 15273-15329; and (b) the complement of a sequence selected from the group consisting of SEQ ID NOs: 378982 and 378930-379029.

- [c10] 10. A bioinformatically detectable first oligonucleotide which is a portion of a mRNA transcript of a target gene selected from the group consisting of genes shown in Table 11 row 3, and anneals to a second oligonucleotide that is endogenously processed from a hairpin precursor, wherein binding of said first oligonucleotide to said second oligonucleotide represses expression of said target gene, and wherein nucleotide sequence of said second nucleotide is selected from the group consisting of SEQ ID NOs:4 and 15273-15329.
- [c11] 11. A bioinformatically detectable isolated oligonucleotide which anneals to a portion of a mRNA transcript of a target gene associated with Adrenal cortical carcinoma, which target gene is selected from the group con-

sisting of genes shown in Table 11, row 4, wherein binding of said oligonucleotide to said mRNA transcript represses expression of said target gene, and wherein said oligonucleotide has at least 80% sequence identity with a nucleotide sequence selected from the group consisting of: (a) a sequence selected from the group consisting of SEQ ID NOs: 2, 4 and 15330-16657; and (b) the complement of a sequence selected from the group consisting of SEQ ID NOs: 379943, 380776 and 379030-381893.

- [c12] 12. A bioinformatically detectable first oligonucleotide which is a portion of a mRNA transcript of a target gene selected from the group consisting of genes shown in Table 11 row 4, and anneals to a second oligonucleotide that is endogenously processed from a hairpin precursor, wherein binding of said first oligonucleotide to said second oligonucleotide represses expression of said target gene, and wherein nucleotide sequence of said second nucleotide is selected from the group consisting of SEQ ID NOs: 2, 4 and 15330-16657.
- [c13] 13. A bioinformatically detectable isolated oligonucleotide which anneals to a portion of a mRNA transcript of a target gene associated with Aids, which target gene is selected from the group consisting of genes shown in Table 11, row 5, wherein binding of said oligonucleotide to said mRNA transcript represses expression of said

target gene, and wherein said oligonucleotide has at least 80% sequence identity with a nucleotide sequence selected from the group consisting of: (a) a sequence selected from the group consisting of SEQ ID NOS: 2, 3, 4, 5, 6, 7, 8, 9 and 16658-22991; and (b) the complement of a sequence selected from the group consisting of SEQ ID NOS: 383072, 383073, 384083, 384982, 395441, 396067, 397674, 398184 and 381894-400528.

- [c14] 14. A bioinformatically detectable first oligonucleotide which is a portion of a mRNA transcript of a target gene selected from the group consisting of genes shown in Table 11 row 5, and anneals to a second oligonucleotide that is endogenously processed from a hairpin precursor, wherein binding of said first oligonucleotide to said second oligonucleotide represses expression of said target gene, and wherein nucleotide sequence of said second nucleotide is selected from the group consisting of SEQ ID NOS: 2, 3, 4, 5, 6, 7, 8, 9 and 16658-22991.
- [c15] 15. A bioinformatically detectable isolated oligonucleotide which anneals to a portion of a mRNA transcript of a target gene associated with Alzheimer, which target gene is selected from the group consisting of genes shown in Table 11, row 6, wherein binding of said oligonucleotide to said mRNA transcript represses expression of said target gene, and wherein said oligonu-

cleotide has at least 80% sequence identity with a nucleotide sequence selected from the group consisting of: (a) a sequence selected from the group consisting of SEQ ID NOs: 2, 3, 4, 5, 6, 7, 8, 9 and 22992-34834; and (b) the complement of a sequence selected from the group consisting of SEQ ID NOs: 404508, 420735, 423944, 435112, 440497, 441931, 446451, 450239 and 400529-460892.

[c16] 16. A bioinformatically detectable first oligonucleotide which is a portion of a mRNA transcript of a target gene selected from the group consisting of genes shown in Table 11 row 6, and anneals to a second oligonucleotide that is endogenously processed from a hairpin precursor, wherein binding of said first oligonucleotide to said second oligonucleotide represses expression of said target gene, and wherein nucleotide sequence of said second nucleotide is selected from the group consisting of SEQ ID NOs: 2, 3, 4, 5, 6, 7, 8, 9 and 22992-34834.

[c17] 17. A method for bioinformatic detection of microRNA oligonucleotides, the method comprising: bioinformatically detecting a hairpin shaped precursor oligonucleotide; bioinformatically detecting an oligonucleotide which is endogenously processed from said hairpin shaped precursor oligonucleotide; and bioinformatically detecting a target gene of said oligonucleotide wherein

said oligonucleotide anneals to at least one portion of a  
    mRNA transcript of said target gene, and wherein said  
    binding represses expression of said target gene, and  
    said target gene is associated with a disease.